

## **BIOLOGICAL SAMPLING PROTOCOLS: overview**

### **Definitions**

Observed Haul: A haul for which the observer collects weights for all species both kept and discarded. Collection of discard information includes everything brought up in the gear; plants, vertebrate and invertebrate animals, rocks and debris.

Sampled Haul: A haul for which the observer collects detailed biological information, such as length measurements and age structures, from certain species or portion of the catch.

### **Summary**

Biological sampling involves collecting data on the species caught in order to aid in determining the effect of fishing effort on catch size and species distribution. These data are also useful in establishing length-weight relationships, aging, migration patterns, food habits, and other valuable biological information.

Biological sampling consists of the collection of the following information from both the kept and discarded catch:

- Actual weights
- Length frequencies
- Age structures
- Tissue and/or other samples, which may include specialty sampling requests

Biological sampling should generally occur after or during every or every other observed haul, as the instructions for each fishery specify. Sampling after every other observed haul is requested in order to allow adequate time to **thoroughly** sample hauls.

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The tables and summaries included in this manual are designed to give the observer enough information to make decisions about which species to sample, and in what priority, on a per haul basis.

- Tables 1a-f. Length Frequency and Age Structure Sampling Priorities are organized by fishery (excluding the pelagic fisheries) and area, with species listed alphabetically. Each list includes groundfish, shellfish and squid species most likely to be encountered in the fishery, and gives a priority rating (1 = high, 2 = medium, 3 = low) to guide in choosing the order in which to sample species on a per haul basis.
- Table 2. Groundfish and Shellfish Sampling Requirements by Species for Domestic Fisheries lists the number of lengths, and the type and number of age structures to collect for each groundfish, shellfish and squid species which may be sampled from the non-pelagic fisheries.
- Table 3. Pelagic Species Sampling Requirements for Domestic Fisheries summarizes the sampling priorities and protocols for pelagic species.
- Table 4. Marine Mammal Biological Sampling Priorities summarizes the sampling priorities and protocols for incidentally taken marine mammals.
- The Sea Turtle Biological Sampling Protocols section summarizes the sampling priorities and protocols for incidentally taken sea turtles.

These tables are guidelines, and not absolute instructions. Every fishery, every trip, and every haul may be different. Thus, sampling procedures must be adapted by the observer to each unique situation.

Generally, only those species listed in Tables 2 & 3 should have length measurements and, where applicable, age samples collected, as these species are considered the commercially important (marketable) species taken by the specific gear in the designated area. However, significant quantities (catches) of targeted species or bycatch of

commercially important species which may not be listed in these tables may also be sampled. In general, the observer should attempt to obtain a large variety of kept and discard samples of the requested size (see [Tables 2 and 3](#)) from species in the same haul or statistical area. Sampling larger numbers of animals than requested produces data of little additional value.

When deployed in a pelagic fishery (*i.e.* pelagic drift gillnet, pelagic pair trawl, pelagic longline, etc.), the sampling priorities for pelagic species should be followed, as outlined in [Table 3](#). This table should also be consulted regardless of the fishery, whenever pelagic species are caught.

Specialty sampling requests should also be accommodated whenever time and circumstances permit.

#### **INCIDENTAL TAKE SAMPLING PRIORITIES FOR ALL FISHERIES**

**Marine mammals** and **sea turtles** are high sampling priority species. However, additional work-up beyond minimum requirements, should occur only after the sampling of priority species listed in [Tables 1a-f](#) and/or [Table 3](#) (*i.e.* cod, pollock, tunas, etc...) is completed. Once these data are collected, and if time permits, additional sampling should occur as outlined in the [Marine Mammal Sampling Protocols](#) and the [Sea Turtle Sampling Protocols](#) sections of this manual.

Incidentally taken dead **sea birds** should be identified and photographed, according to the [Photo Log](#) instructions. All birds should also be checked for the presence of bands (tags). If present, the band number must be recorded. The band should be removed if possible. Sea birds may occasionally be retained whole for identification purposes or, if the animal is in particularly good condition, for future observer training classes. Any incidentally taken birds which are still alive need only be identified, recorded, checked for the presence of bands, photographed, and released as soon as possible.

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